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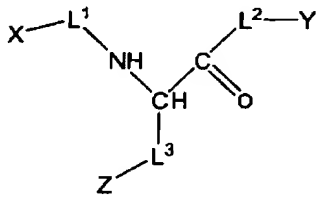
This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A heterofunctional crosslinking reagent having the formula:



wherein

L^1 and L^2 are each independently selected from the group consisting of a bond, a substituted or unsubstituted (C_2-C_{24}) alkylene group, a substituted or unsubstituted (C_2-C_{24}) heteroalkylene group, a polyethyleneglycol group, a polyalcohol group, a polyamine group, a polyester group and a polyphosphodiester group;

$-L^3-Z$ is an optionally protected amino acid side chain having a pendant reactive group, **wherein** said ~~**reactive group**~~ **amino acid is** selected from the group consisting of lysine, cysteine, serine, aspartic acid, glutamic acid, and threonine;

X is a non-covalent protein tag binder that specifically binds to a protein tag portion of a protein; and

Y is a photoactivatable covalent crosslinking group adapted to covalently link the heterofunctional crosslinking reagent at or adjacent to said protein tag, said photoactivatable covalent crosslinking group is a member selected from the group consisting of aryl ketones, azides, diazo compounds, diazirenes, and ketenes.

2.-4. (Canceled)

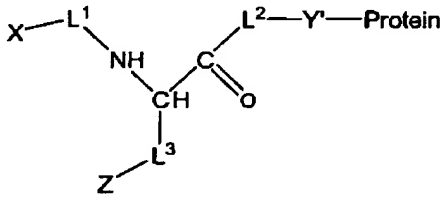
5. (Original) A heterofunctional crosslinking reagent of claim 1, wherein L^1 is a cleavable linking group.

6.-8. (Canceled)

9. (Original) A heterofunctional crosslinking reagent of claim 1, wherein X is selected from the group consisting of metal chelating groups, peptides, an organoarsenical moiety and small molecule ligands or inhibitors.

10.-25. (Canceled)

26. (Currently Amended) A protein conjugate comprising a protein and a heterofunctional crosslinking reagent, said conjugate having the formula:



wherein

L^1 and L^2 are each independently selected from the group consisting of a bond, a substituted or unsubstituted (C_2-C_{24}) alkylene group, a substituted or unsubstituted (C_2-C_{24}) heteroalkylene group, a polyethyleneglycol group, a polyalcohol group, a polyamine group, a polyester group and a polyphosphodiester group;

$-L^3-Z$ is an optionally protected amino acid side chain having a pendant reactive group, **wherein** said ~~**reactive group**~~ **amino acid is** selected from the group consisting of lysine, cysteine, serine, aspartic acid, glutamic acid, and threonine;

X is a non-covalent protein tag binder that specifically binds to a protein tag portion of said protein; and

Y' is the residue of a photoactivatable covalent crosslinking group after formation of a covalent linkage to said protein, said photoactivatable covalent crosslinking group covalently attached at or adjacent to said protein tag portion of said protein, said photoactivatable covalent crosslinking group is a member selected from the group consisting of aryl ketones, azides, diazo compounds, diazirenes, and ketenes.

27.-77. (Canceled)

78. (Previously presented) A heterofunctional crosslinking reagent of claim 1, wherein X is an antibody or antibody fragment.